1. (Original) A method of detecting spark in an igniter in a gas turbine engine, comprising:

a) providing a transformer having

i) a primary which carries igniter current

and

ii) a secondary of inductance L;

b) connecting the secondary in series with a resistance R and capacitance C; and

c) inferring presence of spark by detecting signals in capacitance C.

2. (Currently amended) ~~Method according to claim 1,~~ A method of detecting spark in an igniter in a gas turbine engine, comprising:

a) providing a transformer having

i) a primary which carries igniter current

and

ii) a secondary of inductance L;

b) connecting the secondary in series with a resistance R and capacitance C; and

c) inferring presence of spark by detecting signals in capacitance C,

wherein a cable connects to the igniter, the cable and the igniter are surrounded by an conductive electrical shield connected

to an engine frame, and the secondary comprises a coil wrapped around part of the shield, wherein the core of the coil comprises said part.

3. (Currently amended) Apparatus, comprising:

a) an igniter ~~for use within~~ which is effective to reliably ignite fuel in a gas turbine engine;

b) a coil adjacent a housing of the igniter, which produces signals when sparks are generated in the igniter.

4. (Currently amended) Apparatus according to claim 3, wherein the coil comprises an inductor, and further comprising:

c) a capacitor in series with the inductor,

d) a resistor in series with the capacitor,

wherein the capacitor, the resistor, and the coil form an RLC circuit which amplifies a signal in the coil.

5. (Original) Apparatus for detecting spark in an igniter in a gas turbine engine, comprising:

a) a transformer having

i) a primary which carries igniter current and

ii) a secondary of inductance L;

b) a resistance R and capacitance C in series with the inductance L; and

c) a detector for inferring spark by detecting signals in capacitance C.

6. (Currently amended) ~~Apparatus according to claim 5~~ Apparatus for detecting spark in an igniter in a gas turbine engine, comprising:

a) a transformer having

i) a primary which carries igniter current and

ii) a secondary of inductance L;

b) a resistance R and capacitance C in series with the inductance L; and

c) a detector for inferring spark by detecting signals in capacitance C,

wherein a cable connects to the igniter, the cable and the igniter are surrounded by an conductive electrical shield connected to an engine frame, and the secondary comprises a coil wrapped around part of the shield, wherein the core of the coil comprises said part.

7. (Original) Apparatus, comprising:

a) a gas turbine engine having a frame or casing having

a potential defined as DC ground;

b) an igniter in the engine;

c) a supply cable which supplies current pulses to the igniter;

d) a conductive shield around the supply cable, which connects to a housing of the igniter, wherein the shield and the housing are connected to said ground potential;

e) an exciter which provides said current to the igniter, and which receives return current from the igniter through

i) said shield, and

ii) a second path;

f) a detector comprising a coil and adjacent said housing, which detects one or more of the following:

i) current pulses in the cable;

ii) current pulses in the housing; or

iii) differential between current pulses in the cable and current pulses in the housing.

8. (Original) Apparatus according to claim 7, wherein the coil comprises an inductance L, and further comprising:

g) resistance R and capacitance C which, together with the coil, form an RLC circuit.

9. (Original) Apparatus according to claim 8, wherein the capacitance C in the RLC circuit produces a signal voltage exceeding 50 millivolts in response to each current pulse.

10. (New) Apparatus according to claim 3, wherein the housing is conductive.

11. (New) Apparatus according to claim 10, wherein the housing is connected to a system ground.

12. (New) Apparatus according to claim 3, wherein the housing acts as a grounded shield which prevents personnel from contacting high voltages used by the igniter.

13. (New) Apparatus according to claim 12, wherein (1) the grounded shield surrounds a conductor, (2) the conductor carries incoming current to a spark gap in the igniter, (3) the grounded shield carries return current from the spark gap, which is less than the incoming current, so that (4) magnetic fields of the incoming current do not cancel completely magnetic fields of the return current, thereby providing a net magnetic field for the coil to detect.

14. (New) Method according to claim 1, wherein the capacitor

C produces a decaying oscillating signal in response to spark.

15. (New) Apparatus according to claim 5, wherein the capacitor C produces a decaying oscillating signal in response to spark.

Please replace paragraph [0001] with the following.

[0001] This Application is related to subject matter in the following patent applications, which are of common inventorship and filed concurrently herewith:

SENSOR FOR DETECTION OF SPARK IN IGNITER IN GAS TURBINE ENGINE, SN 10/775,887;

METHOD OF INFORMING PILOT OF AIRCRAFT OF SPARK DETECTED IN GAS TURBINE ENGINE, SN 10/775,864;

INTEGRAL SPARK DETECTOR IN FITTING WHICH SUPPORTS IGNITER IN GAS TURBINE ENGINE, SN 10/775,851;

DETECTING SPARK IN IGNITER OF GAS TURBINE ENGINE BY DETECTING SIGNALS IN GROUNDED RF SHIELDING, SN 10/775,847; and

SPARK IGNITER FOR GAS TURBINE ENGINE, SN 10/775,846.